United States Patent [19]

Bachman

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[54] **DATA PROCESSING SYSTEM UTILIZING DATA FIELD DESCRIPTORS FOR PROCESSING DATA FILES**

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[58] Field of Search .... 340/172.5, 347 DD; 444/1; 364/200, 900

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[57] **ABSTRACT**

A data field descriptor extends the flexibility of operand accesses by defining the attributes of a data field with regard to length, location and form of data representation at execution time. This delay of binding the operand accesses until execution time supports both data independence and security by permitting programs to be compiled without any restrictions imposed by the attributes of data fields. At execution time the necessary information is provided through a register so that the data field information may be correctly processed. With this feature a program is permitted to survive the change in formats of its input and output files without repeatedly undergoing the expensive operation of compilation. Also permitted is processing of files containing data field values which are not uniformly formatted throughout the file but which are self-defining through a data field descriptor.

9 Claims, 11 Drawing Figures